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SUBSTANCE USE BY SOUTH AUSTRALIAN YOUNG OFFENDERS

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Introduction

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As used here, the term “psychoactive substances” (or simply “substances”) covers a range of chemicals that can have psychological effects and includes both licit and illicit substances. Examples of illicit substances are cocaine and LSD. Examples of licit substances are alcohol and glue. A more complete listing is presented later in this Bulletin.

Background

Psychoactive substance misuse has been related to a number of undesirable health, social, legal and economic outcomes. Increased risks of blood-borne diseases such as AIDS and hepatitis B and C, suicide, motor vehicle fatalities, violence, and psychological and physical dependence are just some examples. It is also widely recognised that criminal offending and the use of psychoactive substances are often associated activities. This association is found not only among adults but also among youths.

Both substance misuse and criminal activity are issues of concern to the community. These concerns are multiplied where the two areas overlap. Frequent media reports about drug driven crimes (particularly for the maintenance of expensive narcotics dependencies) fuel these concerns. Legislators and law enforcement agencies struggle with questions of decriminalisation, legalisation or a get tough “war on drugs” approach to the problem. The judiciary searches for more effective ways of dealing with substance using offenders - drug courts being a recent example. Health and welfare agencies seek more therapeutic intervention services, often focussing on harm minimisation, while both school based and public educational and awareness campaigns are regularly launched.

Overseas studies have long since indicated a close link between substance use and juvenile offending (e.g., Loeber & Stouthamer-Loeber, 1987). This link has been confirmed in a number of studies of young offenders in youth detention centres in different Australian states, including South Australia (see Copeland & Howard, 2001; Crundall, 1987; Hando, Howard & Zibert, 1997; Howard & Zibert, 1990; Lennings & Pritchard, 1999; Putniņš, 1992,1995; Putniņš & Harvey, 1992; Watts, 1992). However, patterns of drug use can change over time and descriptions of the levels of substance use can vary between studies due to different survey methods and questionnaires. Survey samples are often limited in size and/or representativeness and direct comparisons with non-offender or general population samples are often lacking. No one study can be expected to be definitive about substance use in a particular population. Rather, it is the accumulation of information and perspectives from various studies over time that will build a comprehensive picture about the nature and extent of substance use. It is in the context of contributing to a more comprehensive picture that this statistical overview has been prepared.

Only two previous quantitative studies about substance use among young offenders have been carried out in South Australia. A survey (Putniņš, 1992; Putniņš & Harvey, 1992) about alcohol use among 197 young offenders in secure care in Adelaide found that alcohol misuse

was widespread and that 24% of the youths could be described as being “alcoholic-like drinkers”. Only 1% of a local high school student comparison group recorded such a level of drinking. The young offenders typically consumed more drinks on any drinking occasion than did the high school students. Moreover, 57% of the young offenders reported consuming alcohol at the time of their last offence. Of these, two-thirds acknowledged having been drunk.

A later survey (Putniņš, 1995) among 216 young offenders in secure care in Adelaide found that, compared to Australian high school and TAFE student groups, offenders more often reported use of most substances during a 1-month period (2-14 times more, depending on the particular substance). The exception was alcohol. Seventy-four per cent of the offenders reported using alcohol during their last month in the community prior to their incarceration. This fell within the range reported for various student groups (albeit at the upper end). However, as the earlier alcohol use survey found, it is likely that the quantity of use (number of drinks consumed on any one occasion) is much higher among young offenders. Amongst the young offenders surveyed, the least frequently used substances were narcotics (8% reported any use during a 1-month period) while the most frequently used substance was marijuana (79% reported any use during a 1-month period).

The material in this Information Bulletin builds on the two earlier South Australian studies described above. However, a word of caution is required before proceeding. The data presented here describe associations between substance use and offending status. They do not indicate the direction of causal relationships or even whether direct causal relationships exist. To convincingly demonstrate such relationships would require an experimental design in which variables can be systematically manipulated by the investigator. Such a design was not used here, the current study being more in the nature of a survey. This is not to say that causal relationships do not exist between variables described by the data, only that a stronger research design would be needed before definitive statements about causality could be made.

In cases where a statistical association exists between two variables, for example between use of a substance and being an offender, at least three (not necessarily mutually exclusive) types of relationship are possible:

- use of the substance increases offending risk;
- being an offender increases the risk of using the substance; and
- some or all of the covariation might be due to the influence of common factors (such as limited parental supervision) and not due to a causal relationship between the two variables.

Measures of statistical association alone cannot decide which of the above correctly describes the causal relationship. As already noted, this does not mean that the data presented here cannot be used to suggest causal relationships, only that they cannot prove such relationships. Where, perhaps on the basis of theory or other studies, a particular relationship is suspected, the consistency of the data with the hypothesised relationship can be considered, thereby either lending support or casting doubt on the validity of the hypothesis. Furthermore, while a statistical association by itself is not enough to prove a causal relationship, lack of any relationship can usually be taken to indicate the absence of causality.

A further caution is to remind that the results presented here are those of young offenders in secure care. They are not necessarily representative of the population of all active young offenders. Most young people who at some time commit a criminal act are never placed in secure care. Those who are incarcerated tend to be more serious or chronic in their offending.

The Secure Care Psychosocial Screening

Since the beginning of 1994, youths admitted to South Australia's two secure care centres (*Magill Training Centre* and *Cavan Training Centre*) whose stays are expected to be longer than a few days are routinely assessed using the Secure Care Psychosocial Screening (SECAPS) (Putniņš, 1998). This is an initial brief assessment of various psychological and social need areas. Examples of topics covered include numeracy, literacy, intellectual functioning, social relationships, mood, self-harming, attention deficit hyperactivity signs, anger and aggression, and substance use.

SECAPS assessments are not normally carried out until at least 24 hours have elapsed from the time of admission. This is in order for youths to settle and to minimise the effects of any substances they might have been under the influence of at the time of their admission. Assessed youths include both those on remand as well as those serving detention orders. The assessments are carried out by youth workers, psychologists or social workers and take about 30 minutes to complete.

SECAPS assessments are standardised - the same core questions are asked of all assessed youths. Accumulated SECAPS assessments now constitute a rich database about the characteristics of youths placed in South Australia's secure care centres. Analyses of various aspects of this database have been previously published (see Putniņš, 1995; 1997; 1999). An analysis of the SECAPS substance use responses by the first 900 youths assessed is the subject of this report. All the assessments were carried out between 1994-1999. In cases where individuals were assessed more than once, in order to avoid double counting of subjects, only the results of first assessments are reported here. To date, this is the largest sample of Australian young offenders whose drug and alcohol use has been quantitatively described.

Included among the SECAPS items is a question about the frequency of use of various substances. Youths are asked about how often they used various substances during the last month before being placed in secure care. One of the reasons for restricting the time period is that recent use is more likely to be accurately recalled than is lifetime use or use over a more prolonged period. Substances listed (as given on the questionnaire) are:

- alcohol (beer, wine, spirits);
- marijuana (grass, hash);
- acid, LSD, datura¹, magic mushrooms or other hallucinogens;

¹ Also known as Angel's Trumpet - a garden plant with hallucinogenic properties.

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- sedatives or sleeping tablets such as Mogadon, Serepax, Valium, Rohypnol or similar (without doctor's prescription);
 - heroin, morphine or other narcotics;
 - cocaine, speed, pep pills or other stimulants (without doctor's prescription); and
 - sniffed (breathed deeply) from spray cans or sniffed items such as glue, petrol, thinner, butane gas or similar.

These are summarised (together with their abbreviations) as: alcohol (Alco); marijuana (Marij); hallucinogens (Hallu); sedatives/hypnotics (Sed/Hyp); narcotics (Narc); stimulants (Stim); inhalants (Inhal). Substances under "sedatives/hypnotics" also include anti-anxiety agents. Other SECAPS items inquire about any previous intravenous drug use; the typical quantity of alcohol or marijuana used on a day when these substances are used; whether any substances were used at the time of committing their last offence; if so, what they were; and whether the young offender felt they had a problem with either drug or alcohol use.

The information collected about substance use is based solely on self-reports. Consequently, questions of accuracy due to either poor recall or deliberate distortion can be raised. While poor recall might occur on some occasions, it is unlikely to be a serious source of error. Unlike some other drug and alcohol use surveys that enquire about use over prolonged periods, frequency of use here is limited to the last month in the community. This was done deliberately, in part to avoid potential problems with trying to remember and estimate behaviours distant in time. Similarly, the item about substances used when they offended was restricted to the last (and therefore, most recent) offence, thereby reducing the possibility of incorrect recall or confusion between different offending occasions. The item regarding intravenous drug use simply asks whether substances had ever been taken by injecting. The simplicity of this question, the salience of the event and the lack of estimation required (no frequency estimate was requested) all encourage accurate recall.

Potentially more serious as a source of error is deliberate distortion. Error can occur in the direction of either inflating or minimising reports of use. Given the setting and the circumstances of the assessment, youths could be expected more often to under-report rather than over-report their use of substances. Results from studies in the USA, using biological analyses to check on the accuracy of self-reports (see Fendrich & Xu, 1994; Feucht, Stephens & Walker, 1994; Mieczkowski, Newel & Wraight 1998), indicate that under-reporting is more likely in relation to very recent use of hard drugs such as cocaine and heroin. However, there are some factors here that reduce the tendency to not reveal the full extent of substance use. First, the SECAPS assessment is introduced to each youth as a routine assessment that is primarily intended to assist staff to become more aware of needs and issues concerning the youth. It is pointed out that it is not a court ordered assessment. This helps to reduce the anxiety that some youths have about the assessment. Second, the substance use items come later in the SECAPS assessment and follow a number of items about the subject's family and residential circumstances, vision and hearing problems, literacy, numeracy and other areas of functioning. This gives time for the assessor to establish a rapport with the youth and for the youth to settle in to the assessment. Third, substance use is so widespread among young offenders that it is statistically normative for their group. In a residential facility populated with young offenders, fear of condemnation by admitting to substance use is minimal.

A further aid to more complete disclosure is the use in the SECAPS assessment (the youth's literacy permitting) of a self-administered pencil-and-paper questionnaire to describe their substance use. Harrison (1997) reports that a number of studies have found greater disclosure using this format compared to face-to face interviews.

Although there are exceptions, it has been the experience of assessors that where alternative sources of information about a youth's substance use have been available, on most occasions there is a good concordance between the youth's report and other sources.

An earlier study (see Putniņš, 1995) used similar items with a smaller sample of young offenders. An important difference from the present study was that, rather than being part of a routine assessment where results would be available to other staff, the earlier assessment was introduced as a research project. Participation was voluntary and individuals were told that their responses were confidential - response records would not be placed in departmental files or made available to other staff. The motivation to dissimulate was therefore reduced. Despite this difference, the substance use profile obtained in the current investigation is very similar to the earlier study, suggesting that the results reported here have not been severely distorted by under-reporting due to less confidentiality.

Results

Initially 904 youths were approached for assessment. Four declined to co-operate, reducing the total number to 900 (response rate of 99.6%). Due to incomplete responses to some items, subject numbers for individual item results are often a little less than 900. Items regarding quantities (these are in addition to the "frequency of use" items) of alcohol and marijuana typically consumed and the item about intravenous substance use were introduced later into the SECAPS assessment, which is why the results for these items are based on smaller subject numbers.

Sample characteristics

Of the respondents, 90% were males. Ages for the total group ranged from 11 to 20 years, with most subjects (82%) falling within the 14-17 year age range. As can be seen in Table 1, the mean age of the females was more than half a year lower than that of the males. Aboriginal youths tended to be a little younger than non-Aboriginal youths. The few subjects who were 18 years or older were all incarcerated for offences committed before they turned 18 (the age of adult criminal responsibility in South Australia).

Table 1: Mean ages and subject numbers of young offenders by sex and Aboriginality

	Aboriginal		Non-Aboriginal		Total	
	age	<i>n</i>	age	<i>n</i>	age	<i>n</i>
Male	15.7	198	16.1	616	16.0	814
Female	15.3	42	15.4	44	15.3	86
Total	15.7	240	16.0	660	15.9	900

Regarding ethnic background, 27% of the youths described themselves as Aboriginal and 73% as non-Aboriginal. The proportion of Aboriginal subjects differed markedly between males and females. Aboriginals accounted for 24% of all male subjects whereas they accounted for 49% of all female subjects. Why the proportion of Aboriginals among the girls is so much greater is not known. The imbalance is not due to sampling error but simply reflects the percentages of Aboriginals by gender in secure care. For example, during 1999 23% of all male young offenders and 51% of all female young offenders placed in custody were Aboriginal (Office of Crime Statistics, 2000).

Extent of substance use

Only 9% of the young offenders denied using any of the listed substances during the month preceding their incarceration. The converse of this is that 91% of the respondents admitted to using psychoactive substances during that same month. Alcohol and marijuana were the most widely used substances. Most respondents reported having used either alcohol (73%) or marijuana (81%). Substantial proportions of subjects were found to have used other substances. These were at rates between 11% to 25% (depending on the substance).

Table 2: Percentages of young offenders (n=900) and secondary students (n=2498) reporting any use of substances during 1-month periods

Group	Substance						
	Alco %	Marij %	Hallu %	Sed/Hyp %	Narc %	Stim %	Inhal %
Young Offenders	73	81	25	23	10	22	11
Students	68	32	5	5	2	5	5

Note: The student sample consists of male 16-year-old high school students from all Australian states and mainland territories (Letcher & White, 1998). Unpublished student figures from the same survey for alcohol and stimulants (ecstasy, cocaine or amphetamines) were kindly made available by the Centre for Behavioural Research in Cancer, Victoria.

The young offenders' results are compared in Table 2 to those for Australian male secondary students of similar mean age. Male students were used as the comparison group because the vast majority of the young offenders were males. While the proportion of young offenders reporting any use of alcohol during a 1-month period was similar to that recorded for the students, all other substances were used by the offenders 2-5 times more often (depending on the substance).

Substance use frequencies

A detailed breakdown of the frequency of use by young offenders of various substances within a 1-month period is presented in Table 3. Of interest are the figures for the use of marijuana. More young offenders here were found to have used marijuana (81%) than had used alcohol (73%) during the month before their placement in secure care. The predominance of the use of marijuana becomes more apparent when high frequency use is examined. Whereas 10% reported daily or almost daily use of alcohol, 44% reported using marijuana at the same rate - an incidence more than four times greater.

Table 3: Percentages of youths using substances at various frequencies during the last month before placement in secure care

Frequency	Substance [†]						
	Alco %	Marij %	Hallu %	Sed/Hyp %	Narc %	Stim %	Inhal %
None	27	19	75	77	90	78	89
1-2/month	29	11	15	13	4	12	5
1-2/week	24	15	6	4	3	4	2
Several/week	10	12	2	4	1	3	1
Daily/almost	10	44	2	1	2	3	2
Total	100	100	100	100	100	100	100
<i>n</i>	900	900	899	899	899	898	898

[†] 10 youths (1% of the total) reported using other substances not covered by the categories used here

There is widespread use of different substances by young offenders. High frequency use of alcohol and of marijuana in particular is common. However, if daily or almost daily use over a prolonged period is one of the characteristics of dependency (though not sufficient by itself to diagnose dependency), then from Table 3 it can be seen that few youths are likely to as yet be dependent on the so-called “hard drugs”.

Quantities consumed

For most substances frequency of use is sufficient to indicate the degree of misuse. However, in the case of both alcohol and marijuana the quantity typically consumed can also be an important indicator of misuse. The SECAPS includes items about the amounts of alcohol and marijuana typically consumed on a day when these substances are used. Only those who indicated some use of these substances during their last month in the community prior to entering secure care answered these items.

Of the 455 youths who reported how many drinks they normally consumed on a drinking day, 19% indicated 1-4 drinks, 28% indicated 5-9 drinks and 53% indicated 10 or more drinks. Moderate drinking seems to be rare.

Of the 514 youths who reported how many times they normally smoked marijuana on a day when marijuana is used, 33% indicated 1-5 times, 41% indicated 6-19 times and 26% indicated 20 or more times. Relatively heavy consumption appears to be the norm.

Intravenous drug use

The item about whether subjects had ever taken substances by injecting was later introduced into SECAPS. Results are, therefore, available for only the last 224 youths assessed in this sample. Injecting drug use at some time was reported by 25% of respondents. By contrast, general population figures are considerably lower. For example, the general population National Drug Strategy Household Surveys of 1995 and 1998 both gave figures of 1.6% lifetime experience of injecting substance use among 14-19 year olds (Australian Institute of Health & Welfare, 1999).

High rates of intravenous drug use have been observed among detained youth in other Australian states. Lennings and Pritchard (1999) reported a rate of 42% in their Queensland sample, Hando, Howard and Zibert (1997) reported a rate of 24% among youths in NSW detention facilities while Copeland and Howard (2001) recently reported a rate of 36% among NSW juvenile detainees. Among a slightly older group of youths admitted to the Melbourne Juvenile Justice Centre, 73% reported ever having injected drugs (Ogilvie, Veit, Crofts & Thompson, 2000).

While no question about what drugs were injected is asked in the SECAPS assessment, studies with young drug users in other states (Ogilvie et al., 2000; Williams & Crane, 2000) and a national survey (Adhikari & Summerill, 2000) indicate that amphetamines and opiates are the most commonly injected substances.

Offending and substance use

In addition to the association between relatively high use of psychoactive substances and being a young offender in secure care, there also appears to be an association between the act of offending and substance use. More than half (60%) of those surveyed reported using a substance at the time of their last offence. Of those reporting such use, 62% had used alcohol; 53% marijuana; 8% hallucinogens; 15% sedatives/hypnotics; 4% narcotics; 9% stimulants; and 3% inhalants. Polysubstance use (use of more than one substance) was quite common - 42% of those who reported using a substance when they last offended had used two or more substances at the time.

The strong association between offending and using alcohol at the same time is also predictive of future offending risk. In another study in progress by the author, all youths ($n=458$) who had a SECAPS assessment between 1994-1996 were followed up with regard to further offending after their release from secure care. At 6 months post-release it was found that the odds of reoffending were 77% greater (Odds Ratio = 1.77) for those who reported more frequent (i.e., several times a week or more often) use of alcohol.

Admitted problems with substance use

A SECAPS item asks whether respondents feel that they have a problem with their drug or alcohol use. About a quarter (24%) acknowledged that their use of substances was a problem. This is the same proportion (24%) reported in Hando et al.'s (1997) New South Wales survey of young detainees but is slightly less than results from Lennings and Pritchard's (1999) Queensland survey (33%) and Howard, Copeland, Nicholas and Karacanta's (2001) recent NSW survey (34%). There was a trend for self-acknowledged problem use to increase with age, from 15% among under 15-year-olds to 29% among those 17-years or older.

Practical experience suggests that not all youths who report high levels of substance consider themselves to have a problem. A frequently heard response is: "I don't have a problem 'cause I can stop whenever I want". In the minds of these youths, problem use is mainly associated with the notion of dependence and not with other difficulties that might be associated with intemperate use. They often fail to acknowledge the health, legal and interpersonal hazards that can arise from substance use irrespective of whether a dependency has developed. Few youths are substance dependent but many display concerning levels of use.

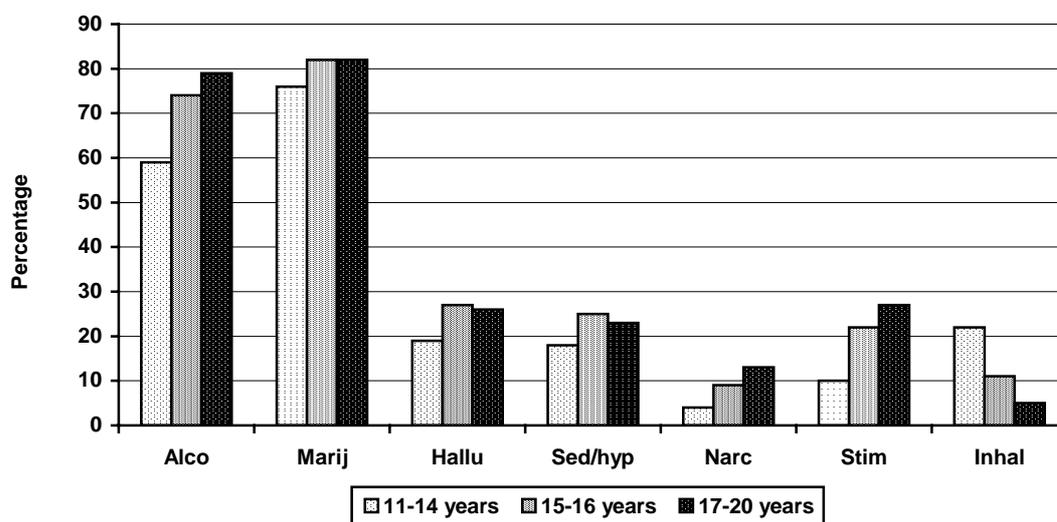
Background factors

Age

As can be seen in Figure 1, use of most substances increases with age. This is most pronounced with narcotics and stimulants. Among those 14 years or younger 4% and 10% respectively reported using narcotics and stimulants during their last month before being placed in secure care. These rates approximately triple among young offenders 17 years or older (13% and 27% respectively reported using narcotics and stimulants during their last month before incarceration). The increased use of these substances is closely paralleled by increases with age in intravenous drug use. An experience of injecting use was reported by 9% of those 14 years or younger, 17% of those 15-16 years of age and by 41% of those aged 17 years or older.

An exception to the general trend toward increased use with age is observed for inhalants. Inhalant use was reported by 22% of those 14 years or younger, 11% of those 15-16 years of age and by 5% of those aged 17 years or older. The reason for the increased use of inhalants among younger youths is likely to be accessibility. Glue, aerosol cans, butane gas, petrol and so on are cheap, plentiful and easy to obtain. With increasing age other substances become more readily available to potential users. The decrease in inhalant use with age does not necessarily signal a reduction in substance use by former inhalant users. It is likely that inhalants are often replaced by substances that have become easier to access.

Figure 1: Substances used during the month prior to detention by age (11-14 years, n=165; 15-16 years, n=355; 17-20 years, n=380)



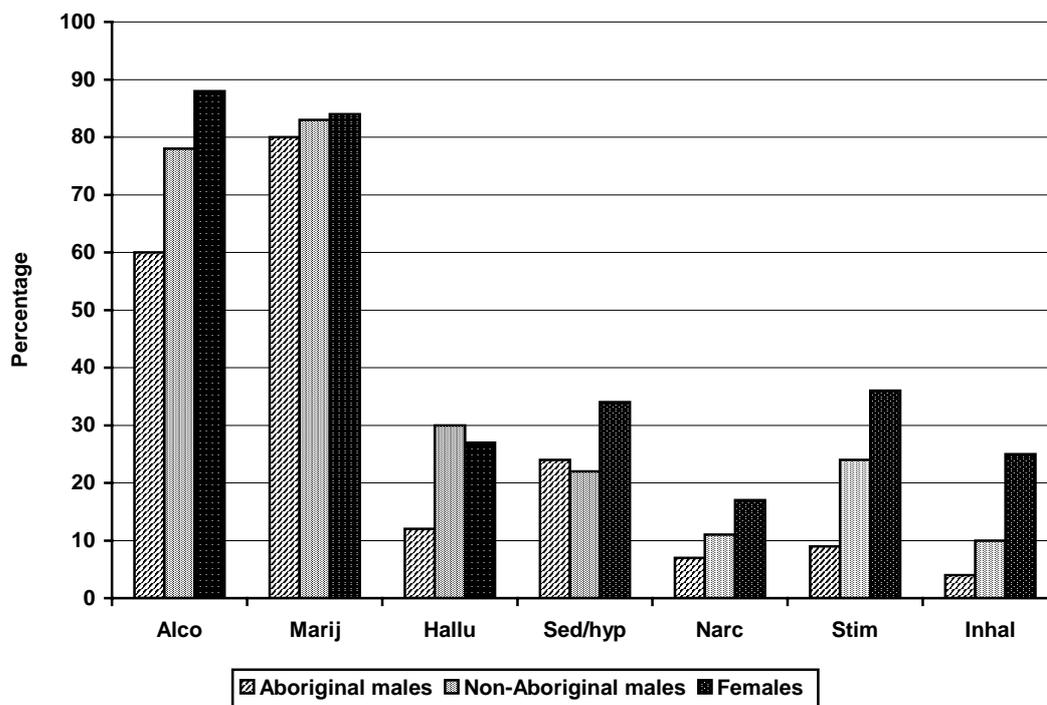
Gender and Aboriginality

In order to see whether the overall pattern of substance use varies markedly by gender or Aboriginality, comparative data are presented in Figure 2 and Table 4. To reduce differences that might arise due to different age distributions among various subgroups, this analysis was

restricted to youths ($n=736$) aged 14-17. Due to the female group already being relatively small ($n=64$), separate analyses for Aboriginal and non-Aboriginal girls were not undertaken.

There are some broad similarities between the groups. For example, alcohol and marijuana were the most often reported substances. However, differences are also evident. The non-Aboriginal males tended to occupy a mid-position between the females and the non-Aboriginal males in their use of most of the various substances. It seems that female young offenders placed in secure care are a vulnerable group. They more often reported using most classes of substances, particularly narcotics, stimulants and inhalants, tended more often to have taken drugs by injecting and more often admitted to having a problem with substance use. Aboriginal males generally reported less use of most substances (though their use is still quite high compared to the student figures presented in Table 2). Similarly, compared to females and non-Aboriginal males, they less often reported any intravenous drug use, any use of substances at the time of their last offence or having a drug problem.

Figure 2: Substances used during the month prior to detention by 14-17-year-old Aboriginal male ($n=162$), non-Aboriginal male ($n=509$) and female ($n=64$)



Contrary to expectations, they had the lowest frequency of inhalant use. Inhalant use (particularly petrol sniffing) is perhaps more often encountered among Aboriginal youth in relatively remote rural areas, whereas the vast majority of Aboriginal youths in secure care come from Adelaide or major rural urban centres (Putniņš, 1999). However, the interpretation of the lower rates of substance use and other substance related behaviours among young Aboriginal male offenders is hampered by an absence of comparative studies about the accuracy of self-reports by Aboriginal youths. The results are open to at least two different interpretations. First, it is possible that male Aboriginal youths are generally less involved in substance use. Second, it is possible that Aboriginal males are more reluctant to disclose their substance use (which would be similar to findings with Afro-Americans in the

USA [see Fendrich & Xu, 1994]). To decide with any confidence between these interpretations requires a study using biological measures to validate the comparative accuracy of the self-reports of both Aboriginal and non-Aboriginal youths.

Table 4: Percentages of detained youths (14-17 years) who reported using a substance at the time of their last offence, any prior intravenous drug use and current problems with substance use.

	Aboriginal males % (n=163)	Non-Aboriginal males % (n=509)	Females % (n=64)
Used substance when offend	46	62	65
Has injected †	10	28	35
Admitted use is a problem	20	25	31

† Respondent numbers are lower at this item (39, 116 and 17 respectively) due to its later addition to the SECAPS

Family

The SECAPS assessment includes a question about whether any other members of the immediate natural family (viz. mother, father, siblings) have had a problem with drugs or alcohol. No definition of what is “a problem” is offered to the youths. Each respondent’s interpretation of this question is, therefore, rather subjective. Bearing this in mind, 43% (n=386) of the entire sample of young offenders replied that at least one of their natural parents or siblings had had a problem with drug or alcohol use, 4% (n=38) replied that they did not know while 53% (n=476) denied such problems. The provision of guidelines about what constitutes problem use might have given different results. Nevertheless, the results suggest that many of the offenders have family backgrounds in which close family members have used psychoactive substances at levels regarded by the youths as being problematic.

Discussion

The results indicate that a large proportion of detained young offenders used psychoactive substances. Furthermore, they used most substances considerably more often than did similarly aged student groups. While alcohol and marijuana use dominated, a variety of other substances were also frequently used. When comparing similarly aged (14-17 years) subgroups it was found that proportionately fewer Aboriginal males admitted using substances during the preceding month. They also reported lower rates of intravenous drug use. Compared to males, females in secure care tended to more frequently report the use of various substances during the preceding month. A similar gender difference has recently been reported among young offenders in Victoria (Dunne & Xantidis, 2001). This is in contrast to surveys of secondary school students (e.g., Letcher & White, 1998) that generally find females' self-reported illicit substance use to be lower than that of males. The number of females here is not particularly large and their results might not be very reliable. Bearing this in mind, one explanation for their more frequent use of different substances could be that females are simply more willing to disclose their substance use. In other words, it is not that females actually use substances more often but rather that they are more willing to reveal their substance use. Only one published study (carried out in the USA) using biological measures as a benchmark has examined this question with young offenders (Kim, Fendrich & Wislar, 2000). It was concluded that there was no significant gender difference in disclosing marijuana use and no significant gender differences in disclosing cocaine use among either Black or White respondents. Hispanic girls, compared to boys, however, were significantly less likely to disclose their cocaine use. Although the evidence is limited, it does not seem that a gender difference in willingness to disclose substance use is likely to explain the higher rates of self-reported substance use among offender girls who complete SECAPS assessments.

An alternative explanation for the observed gender difference might be found in the suggestion that there is a greater reluctance to apply more severe judicial sanctions to females. South Australian figures for 1999 (Office of Crime Statistics, 2000) show that females accounted for 19.7% of all juvenile apprehensions made by the police, 14.9% of finalised appearances before the Youth Court (where at least one charge was proved) and 5.7% of all detention orders imposed by the Youth Court. While the reduction in the percentage of females between apprehension and detention does not by itself prove processing bias, it is consistent with such an hypothesis. If processing bias exists, with females on average needing to be more extreme in their offending before getting a custodial sentence, then the known close association between criminal offending and other antisocial behaviours could explain why females in secure care also reported a wider range of substance use. This explanation is, however, speculative.

Substance use was strongly associated not only with young offender status but also with the offending act itself, with more than half the offenders reporting using substances at the time of the last offence. That marijuana use is often associated with the act of offending is not surprising given that marijuana is the most frequently used of all the psychoactive substances. A large proportion (44%) reported daily or near daily use of marijuana, often in large quantities. The close association between offending and marijuana use might be largely coincidental rather than causal simply because a large proportion of young offenders at any one time are under the influence of marijuana.

Alcohol is used much less often than marijuana. For example, only 10% report daily use of alcohol and a further 10% report drinking several times a week. However, when it is used it is usually to excess, with 53% claiming to consume 10 or more drinks on a drinking day. Binge drinking is the norm. Furthermore, although alcohol is not the most often used substance, it is the substance most often associated with the actual act of offending. This association may be largely due to the strong disinhibiting properties of alcohol and its known effects on judgement, impulsivity and risk taking.

Effective ways of reducing substance abuse among high risk groups such as young offenders need to be found. Unfortunately young offenders have proven to be difficult subjects to work with. Incarceration seems to have little effect on subsequent substance use (Stitzer & McCaul, 1987) and drug and alcohol education programs have generally had disappointing results with youth (Lynam, Milich, Zimmerman, Novak, Logan, Martin, Leukefeld & Clayton, 1999; Orlandi, 1996; Shamaï & Coombs, 1992). Such programs continue to be run partly because of a strong need to be seen to be doing something and partly due to a confusion between process evaluation and outcome evaluation. Process evaluation can include things such as measuring participation rates, parents' or teachers' judgements about the relevance of the information presented, youths' satisfaction with the presentation style, how interesting they found the material and so on. None of these, however, are necessarily related to reductions in substance use or associated problem behaviours, which remain the ultimate goals of such programs and which should be the subject of outcome evaluation. Process evaluation is sometimes presented as a proxy for outcome evaluation. While outcome research is often difficult to do, it is the area where more research effort needs to be directed so that intervention programs are not implemented on the basis of "feel good" measures but rather on the basis of relevant behaviour change.

A recent nationally representative survey of drug treatment program participants in the USA found that, on average, adolescents (unlike the treated adults) had higher rates of substance use at follow-up than they did before treatment (Office of Applied Studies, 1998). As there was no control group, it cannot be definitely concluded that treatment had no positive effect. It is conceivable that the outcome might have been even worse without treatment. However, the possibility that treatment might unintentionally result in worse outcomes cannot be ruled out. In any case, the finding of increased post-treatment substance use highlights the difficulty in identifying effective (i.e., empirically verified and replicated) clinical interventions for substance misusing youths and, more specifically, for young offenders. There is a need to explore new avenues of intervention and, most importantly, to empirically evaluate both existing and new interventions. Clearly, a range of different approaches is needed, with delinquents perhaps requiring different strategies from non-delinquents. At the same time it must be conceded that the search for effective focussed substance treatment programs for young offenders might bring little reward. It is possible that for most delinquent youths their substance use is a manifestation of a general problem behaviour syndrome. If so, perhaps the forces shaping general deviancy need to be treated rather than substance use directly. This is consistent with the findings from a longitudinal study by Stice, Myers and Brown (1998). These researchers found that high delinquency appeared to be the important link between consumption and problem use. They concluded that interventions targeting the youths' delinquency might be more effective than interventions directed at their substance use.

Despite growth in the use of a variety of psychoactive substances, the association between alcohol use and crime remains strong. The availability of alcohol could be considered as a

broad area for increased intervention and control. Alcohol's role as a gateway drug further suggests that reducing alcohol use might reduce the progression to other substances.

Main conclusions

Despite the prominence given in the media to the issue of "hard drugs", the substances most frequently used by both young offenders and non-offenders were the so-called "soft drugs", namely alcohol and marijuana. Of these, alcohol appears to have a stronger direct association with acts of offending - most likely due to its strong disinhibiting properties. Ways of more effectively restricting adolescents' access to alcohol need to be considered.

While few youths are likely to have as yet developed significant substance dependencies, needle use is relatively common. In light of the risks of blood-borne diseases that can be transmitted by needle sharing, intravenous drug use by young offenders should be a serious public health concern.

Interventions to reduce substance use need to be evaluated with regard to their major objective, namely the reduction of substance misuse. Obvious as this might seem, it is seldom achieved. There are various impediments to carrying out such research. However, a significant step forward would be to make more professional and material resources available for quality outcome evaluations. The alternative is to continue to provide interventions that often lack an evidence base and which might at times even be harmful.

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